

REMARKS

Claims 1 and 4-6 are pending in this application. By the Office Action, claim 1 is objected to; claims 1, 2, 3, and 5 are rejected under 35 U.S.C. §102; and claims 4 and 6 are rejected under 35 U.S.C. §103. By this Amendment, claims 1 and 4 are amended and claims 2-3 are canceled. Support for the amendments to claim 1 can be found, for example, in the claims and specification as filed such as in original claims 2 and 3. No new matter is added. In view of the foregoing amendments and following remarks, reconsideration and allowance are respectfully requested.

I. Objection to Claim 1

Claim 1 is objected to for an informality. Claim 1 is amended to address the informality. Reconsideration and withdrawal of the objection are respectfully requested.

II. Rejection Under 35 U.S.C. §102

Claims 1, 2, 3, and 5 are rejected under 35 U.S.C. §102(b) over Moshrefzadeh. Applicants respectfully traverse the rejection.

Claim 1, as amended, is directed to a transmission screen comprising: a Fresnel lens sheet having a front surface facing the viewer and Fresnel lens elements formed on the front surface, and a shading sheet placed contiguously with the front surface of the Fresnel lens sheet, wherein the shading sheet is provided with shading elements for absorbing external light fallen on the front surface of the shading sheet from a viewer side, the external light to be absorbed by the shading elements would be reflected in a total reflection mode by a back surface of the Fresnel lens sheet facing a projection light source toward the viewer unless the shading sheet would not be placed contiguously with the front surface of the Fresnel lens sheet. Claim 1 further specifies that the shading elements transmit external light fallen on the shading sheet at an incident angle θ meeting the stated Expression (1) and penetrated into and diffracted by the shading sheet, wherein the shading sheet has a rib group including a plurality

of ribs extending in a direction and the shading elements, wherein each of the shading elements has a total-reflection facet contiguous with the rib and capable of reflecting in a total reflection mode the external light fallen on the front surface of the shading sheet from the viewer side toward the projection light source, and the shading elements are light-absorbing parts containing a light-absorbing material. Such a transmission screen is nowhere disclosed in Moshrefzadeh.

Although the Office Action asserts that Moshrefzadeh discloses the claimed invention, the claimed invention and Moshrefzadeh are directed to different structures, used for different purposes, and thus Moshrefzadeh does not anticipate the instant claims. This is evidenced by the fact that while Moshrefzadeh is directed to improving an optically dispersing film for a rear projection system so as to broaden its view angle of the image light from the image light source side by reflecting with internally reflecting structures, the claimed invention provides a transmission screen capable of preventing the reduction of contrast due to external light, such as light from interior lighting fixtures in a room, where the external light falls on the front surface of the shading sheet from a viewer side. These different objectives require different structures, and thus evidence that Moshrefzadeh is distinct from the claimed invention.

In support of the rejection, the Office Action cites Figs. 10 and 11 of Moshrefzadeh as disclosing the claimed transmission screen. The Office Action argues that the light ray 1102, which falls on the surface of the shading sheet and Fresnel lens sheet, is transmitted without deviation, and meets the formula of Equation (1). Applicants disagree, because the light rays 1102, 1104 in Moshrefzadeh Figs. 10 and 11 are not from the viewer side of the structure, but rather are from the light source side of the structure. Moshrefzadeh does not disclose at least that the shading elements transmit external light fallen on the shading sheet at an incident angle θ meeting $\theta < 24 + 0.018 \times F$ and penetrated into and diffracted by the shading sheet.

This difference between the claimed invention and Moshrefzadeh is clearly shown in the present specification. For example, in contrast to Moshrefzadeh Figs. 10 and 11 where light rays 1102, 1104 are from the light source side of the structure, Fig. 3 of the present application shows that the light of interest is the external light 2 from the viewer side of the structure. According to the claimed invention, the shading elements of the shading sheet can absorb external light that falls on the front surface of the shading sheet from a viewer side of the structure, such as ambient light from light fixtures present in the room. Such external light that is to be absorbed by the shading elements would otherwise be reflected toward the viewer in a total reflection mode by a back surface (51) of the Fresnel lens sheet facing a projection light source, unless the shading sheet would not be placed contiguously with the front surface of the Fresnel lens sheet. See, for example, the specification at page 9, line 34 to page 10, line 16, particularly page 9, line 34 to page 10, line 2.

In the claimed invention, when the external light at an incident angle θ meeting $\theta < 24 + 0.018 \times F$ from the viewer side falls on the shading sheet, the external light penetrates the shading sheet. In this case, some of the external light penetrates the shading sheet directly, while some of the external light penetrates the shading sheet after it has been total-reflected by the total-reflection facets of each of the shading elements. As a result, the external light penetrating the shading sheet falls on the Fresnel lens sheet at a small input angle. This is important because the smaller the input angle to the Fresnel lens sheet, the more the external light penetrates the Fresnel lens sheet and is absorbed by the interior walls of the projection device. This in turn prevents reduction of contrast due to the presence of the external light.

Moshrefzadeh does not disclose these features of the claimed invention, and thus does not anticipate independent claim 1, or the claims dependent therefrom. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

III. Rejections Under 35 U.S.C. §103

Claim 4 is rejected under 35 U.S.C. §103(a) over Moshrefzadeh in view of Goto.

Claim 6 is rejected under 35 U.S.C. §103(a) over Moshrefzadeh in view of Yoshida.

Applicants respectfully traverse the rejections.

The Office Action asserts that Moshrefzadeh teaches all of the limitations of the independent claim 1, but fails to teach the specific limitations of claims 4 and 6. The Office Action argues that these features are taught by Goto and Yoshida, respectively, and that it would have been obvious to combine Goto or Yoshida with Moshrefzadeh to practice the claimed invention.

Regardless of the actual teachings of Goto and Yoshida, any combination of Moshrefzadeh, Goto, and Yoshida still does not teach or suggest all of the features of independent claim 1, discussed in detail above. Nowhere does any of the references teach or suggest a transmission screen that prevents reduction of contrast due to the presence of external light, as claimed. Neither Goto nor Yoshida is cited as teaching these features of claim 1, and thus Goto and Yoshida fail to overcome the deficiencies of Moshrefzadeh.

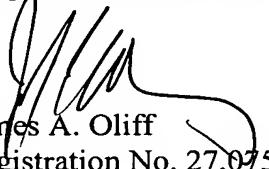
For at least these reasons, the claims would not have been rendered obvious by the cited references, alone or in combination. Accordingly, reconsideration and withdrawal of the rejections are respectfully requested.

IV. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,


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Date: February 21, 2007

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